CAS 111D: CSS Tutorial

Cascading Style Sheets

Using CSS allows you to have creative control over the layout and design of your web pages. By using CSS you can create styles that can be used on many different HTML documents. This is a huge benefit to the web designer. If you decide to change the font or the font color of the pages in your website, imagine how much work it would take to go through every single page and make the desired changes. By using CSS, you format your pages in one document, then link that one document to all the HTML files on your site.

It is important to realize that CSS is used for the presentation or format of your web pages. HTML is used for the structure and content of the pages. CSS is not HTML. It is another language altogether, but it works hand-in-hand with the Web browser to make your HTML look good!

CSS offers the following benefits:

- Style sheets offer far more formatting choices than HTML.
- Typography and page layout can be better controlled.
- CSS styles take up much less space than HTML's formatting options. You can trim quite a bit of file size from your Web pages using CSS. As a result, your pages look great and load faster!
- Style sheets make updating your site easier. When you edit a style, that change immediately ripples through your site wherever that style appears. You can completely change the appearance of a site just by editing a single style sheet.

To see an example of the power of CSS, check out the following website: www.csszengarden.com. The links on this site all show the exact same HTML document linked to a different style sheet. Wow! CSS offers the web designer a lot of power!

Why do I need to know this?

Using Dreamweaver, the majority of formatting that you select is done using CSS. The good news is that Dreamweaver does all the CSS code writing for you. However, it is still vitally important that you have at least a base knowledge of what CSS is all about so that you can better understand what Dreamweaver is doing "under the hood." If you're serious about Web design, you should consider taking a class on CSS. CAS215 is a class devoted to CSS and is a great follow-up to your Dreamweaver course.

Styling your XHTML page using CSS

In this exercise, you will be creating a basic CSS document that will be used to format the XHTML document you created during the XHTML tutorial last week. If you haven't done the XHTML tutorial yet, STOP! You need to complete that one first, before you attempt this tutorial.

You will be working through the Beginning CSS tutorial taken from the same Website as the XHTML tutorial. *(HTML Dog, written by Patrick Griffiths).*

You will need to be at a computer connected to the Internet. You will be using your browser and a text editor such as NOTEPAD. You can have your browser and your text editor open simultaneously which will allow you to switch back and forth easily.

1. In Notepad, open the **myfirstpage.html** file you created last week.
2. Open a second Notepad window. This will be used for your CSS document.

CSS, or Cascading Style Sheets, is a way to style HTML. Whereas the HTML is the content, the style sheet is the presentation of that document. Styles don't smell or taste anything like HTML, they have a format of "property: value" and most properties can be applied to most HTML tags.

Applying CSS:

There are 3 different places where you can create your CSS styles:

1. In-line styles are typed straight into the HTML tags using the *style* attribute. They look something like this:

```
<p style="color: red">text</p>
```

This will make that specific paragraph red. But, if you remember, the best practice approach is that the HTML should be a stand-alone, presentation free document, and so in-line styles should be avoided wherever possible.

2. Internal styles (or Embedded) are used for the whole page. They reside inside the HEAD tags of the page. They apply to all tags within that particular HTML document.

3. External Styles are used for the whole, multiple-page website. There is a separate CSS file, which contains all CSS for the site. All pages within the site can link to this one style sheet and therefore styles will be consistent across the entire site. This is the preferred method of styling HTML pages and should be used whenever possible.

Follow these steps to create an external styles sheet for your XHTML document:

1. Open a new document in NOTEPAD. Save the file as **styles.css. Be sure to save this file in the same folder as your XHTML document!**
2. Type the following into the new document:

```
p       {
        color: red;
}
a       {
        color: green;
}
```

3. Save the file.

4. Switch to your XHTML document and type the following directly below the title tags:

   <link rel="stylesheet" type="text/css" href="styles.css" />

5. Save the file.

6. Open your browser.

7. Open the XHTML file in your browser window using the File menu and the Open command. Your document should have red text and your hyperlink should be green. Notice that only the text within <p> tags is red – this is because we created a tag style for the <p> tag.

Selectors, Properties, and Values:

Whereas HTML has tags, CSS has selectors. Selectors are the names given to styles in internal and external style sheets. This tutorial focuses on HTML selectors which are simply the names of HTML tags and are used to change the style of a specific tag.

For each selector, there are 'properties' inside curly brackets, which simply take the form of words such as *color, font-weight, or background-color.*

A **value** is given to the property following a **colon** and **semi-colons** separate the properties.

There are many property-specific units for values used in CSS, but there are some general units that are used in a number of properties and it is worth familiarizing yourself with these before continuing.

- **em** (such as font-size: 2em) is the unit for the **calculated size of a font**. So "2em", for example, is two times the current font size.
- **px** (such as font-size: 12px) is the unit for **pixels**.
- **pt** (such as font-size: 12pt) is the unit for **points**.
- **%** (such as font-size: 80%) is the unit for... wait for it... **percentages**.
- Other units include **pc** (picas), **cm** (centimetres), **mm** (millimetres) and **in** (inches).
- When a value is **zero**, you do not need to state a unit. For example, if you wanted to specify no border, it would be border: 0.

A web page is not a static, absolute medium. It is meant to be flexible and the user should be allowed to view the web page however they like, which includes the font size *and* the size of the screen.

Because of this, it is generally accepted that 'em' or '%' are the best units to use for font-sizes (and possibly even heights and widths), rather than 'px', which leads to non-resizable text in most browsers, and should be used sparingly, for border sizes for example.

Follow these steps to add additional styles to your CSS stylesheet:

1. Switch back to the styles.css file in Notepad.
2. At the top of the document, before your "p" style, type the following:

```
body    {
        font-size: .8em;
}

h1      {
        font-size: 3em;
}
```

3. Save the file.
4. Switch back to your browser window and refresh the document. You should see a change in the font sizes.

Colors:

CSS brings **16,777,216** colors to your disposal. They can take the form of a **name**, an **rgb** (red/green/blue) value, or a **hex** code. There are 17 valid predefined color names. They are *aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, orange, purple, red, silver, teal, white, and yellow*. *Transparent* is also a valid value.

The three values in the rgb value are from 0 to 255, 0 being the lowest level (for example no red), 255 being the highest level (for example full red). These values can also be a percentage.

Hexadecimal is a base-16 number system. We are generally used to the decimal number system (base-10, from 0 to 9), but hexadecimal has 16 digits, from 0 to f.

The hex number is prefixed with a hash character (#) and can be three or six digits in length. Basically, the three-digit version is a compressed version of the six-digit (#f00 becomes #ff0000, #c96 becomes #cc9966 etc.). The three-digit version is easier to decipher (the first digit, like the first value in rgb, is red, the second green and the third blue) but the six-digit version gives you more control over the exact color.

Colors can be applied by using **color** and **background-color** .

Follow these steps to add the additional styles to your CSS stylesheet:

1. Switch back to the styles.css file in Notepad.
2. Add the text shown in BOLD below to the body style and the h1 style.

```
body    {
        font-size: .8em;
        color: black;
        background-color: #ffc;
}

h1      {
        font-size: 3em;
```

```
        color: #ffc;
        background-color: #009;
}
```

3. Save the file.

4. Switch back to your browser window and refresh the document. You should see a change in the heading colors. Notice that not all text color is changed to black? This is because we styled the <p> tag as red which overrides the color of the <body> tag.

Text

You can alter the size and shape of the text on a web page with a range of properties, outlined below:

font-family: This is the font itself, such as Times New Roman, Arial, or Verdana.

The font you specify must be on the user's computer, so there is little point in using obscure fonts. There are a select few '**safe**' fonts (the most commonly used are arial, verdana and times new roman), but you can specify more than one font, separated by **commas**. The purpose of this is that if the user does not have the first font you specify, the browser will go through the list until it finds one it does have. This is useful because different computers sometimes have different fonts installed. So font-family: arial, helvetica, for example, is used so that similar fonts are used on PC (which traditionally has arial, but not helvetica) and Apple Mac (which, traditionally, does not have arial and so helvetica, which it does normally have, will be used).

Note: if the name of a font is more than one word, it should be put in quotation marks, such as font-family: "Times New Roman".

font-size: The size of the font.

Be careful with this - text such as headings should not just be a paragraph in a large font; you should still use headings (h1, h2 etc.) even though, in practice, you could make the font-size of a paragraph larger than that of a heading.

font-weight: This states whether the text is **bold** or not.

In practice this usually only works as font-weight: bold or font-weight: normal. In theory it can also be bolder, lighter, 100, 200, 300, 400, 500, 600, 700, 800 or 900, but seeing as many browsers shake their heads and say "I don't think so", it's safer to stick with bold and normal.

font-style: This states whether the text is **italic** or not.

It can be font-style: italic or font-style: normal.

text-decoration: This states whether the text is underlined or not.

text-transform: This will change the case of the text.

text-transform: capitalize turns the first letter of every word into uppercase.
text-transform: uppercase turns everything into uppercase.
text-transform: lowercase turns everything into lowercase.
text-transform: none I'll leave for you to work out.

Text spacing

The letter-spacing and word-spacing properties are for spacing between letters or words. The value can be a length or normal.

The **line-height property** sets the height of the lines in an element, such as a paragraph, without adjusting the size of the font. It can be a number (which specifies a multiple of the font size, so '2' will be two times the font size, for example), a length, a percentage or normal.

The **text-align property** will align the text inside an element to left, right, center or justify.

The **text-indent property** will indent the first line of a paragraph, for example, to a given length or percentage. This is a style traditionally used in print, but rarely in digital media such as the web.

Follow these steps to add additional styles to your CSS stylesheet:

1. Switch back to the styles.css file in Notepad.
2. Add the text shown in BOLD below to your tags:

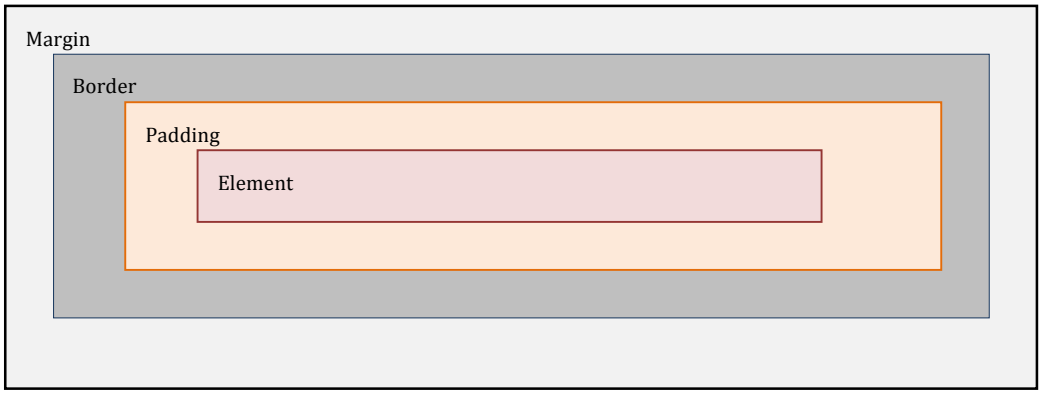
```
body    {
        font-size: .8em;
        color: black;
        background-color: #ffc;
        font-family: arial, Helvetica, sans-serif;
}

p       {
        color: red;
        letter-spacing: .5em;
        word-spacing: 2em;
        line-height: 1.5;
}

a       {
        color: green;
        text-decoration: none;
}

h2      {
        font-style: italic;
        text-transform: uppercase;
}
```

3. Save the file. Switch back to your browser window and refresh the document. You should see a change in your word and letter spacing, as well as a change in your h2 tags.

Margins & Padding

Margin and Padding are the two most commonly used properties for spacing-out elements. A margin is the space outside of the element, whereas padding is the space inside the element. You can set the margin and padding for all 4 sides of an element to be the same, or you can set each side to be different.

Margins, padding, and borders are all part of what's known as the **Box Model**. The Box Model works like this: in the middle you have the content area (let's say an image, or a block of text), surrounding that you have the padding, surrounding that you have the border, and surrounding that you have the margin. It can be visually represented like this:



Follow these steps to add additional styles to your CSS stylesheet:

1. Switch back to the styles.css file in Notepad.
2. Add the following styles to your tags:

```
h2      {
        font-style: italic;
        text-transform: uppercase;
        background-color: #ccc;
        margin: 1em;
        padding: 1.5em;
}
```

3. Save the file.
4. Switch back to your browser window and refresh the document. You should see a change in your h2 text. Notice the padding (the gray space surrounding the text). The margin is the space outside the gray area.

Borders

Borders can be applied to most HTML elements within the body of your page. There are three selectors that determine the border appearance: border-style, border-width, and border-color. You can set all three by using the border selector as shown in the following example:

1. Switch back to the styles.css file in Notepad.
2. Add the following styles to your tags:

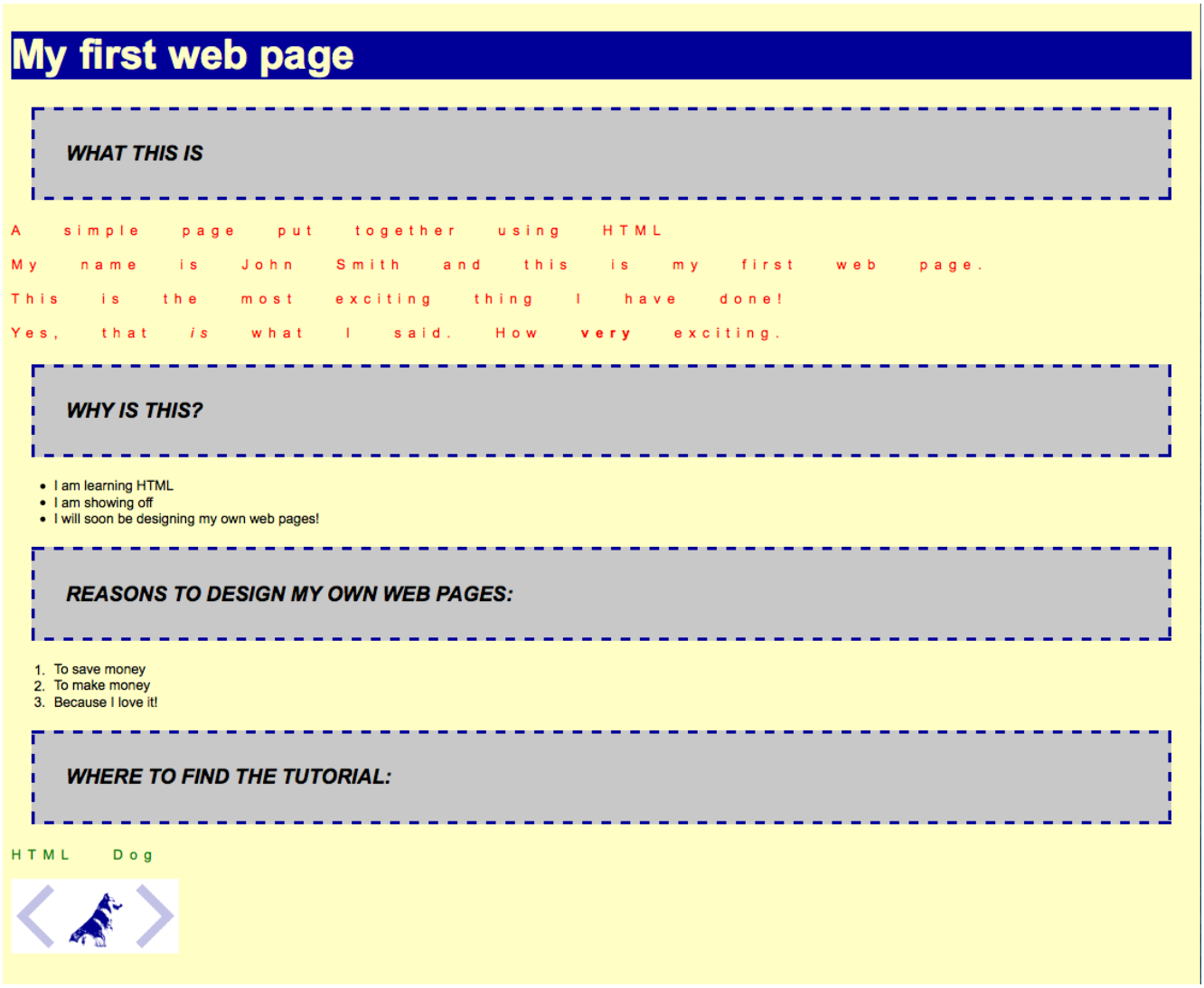
```
h2      {
        font-style: italic;
        text-transform: uppercase;
        background-color: #ccc;
        margin: 1em;
        padding: 1.5em;
        border: dashed #009 3px;
}
```

3. Save the file. Switch back to your browser window and refresh the document. You should see a change in your h2 text.

That's it. Your final styles.css document should look like this:

```
body    {
        font-size: .8em;
        color: black;
        background-color: #ffc;
        font-family: arial, Helvetica, sans-serif;
}

p       {
        color: red;
        letter-spacing: .5em;
        word-spacing: 2em;
        line-height: 1.5;
}

a       {
        color: green;
        text-decoration: none;
}

h1      {
        font-size: 3em;
        color: #ffc;
        background-color: #009;
}

h2      {
        font-style: italic;
        text-transform: uppercase;
        background-color: #ccc;
        margin: 1em;
        padding: 1.5em;
        border: dashed #009 3px;
}
```

Your final HTML page should look like this when viewed in your browser window. From your browser window, you can view your HTML source document by selecting SOURCE from the VIEW menu. Notice that we did not change the HTML document, except to link the style sheet. All that formatting comes from the CSS styles! Aren't you glad that Dreamweaver is going to do all this coding for you????



Congratulations on your first CSS document! After all that typing of code, you will really come to appreciate the power of using Dreamweaver and having it do all the coding for you. To submit this tutorial assignment, complete the following:

Upload the completed files (styles.css and myfirstpage.html) to the Student Web Server (SWS). They should be uploaded to the **Additional Exercises** Folder you created last week. You will be using Filezilla to FTP your files. Refer to your FTP Instructions document if you need help with this.

CSS Terms to Review:

You do not need to turn these in – however they will be on your Quiz for this week.

1. _____ is used for content, while _____ is used for presentation.
2. CSS stands for _____ and is used to style HTML.
3. Internal or Embedded styles are located inside the _____ of the HTML document.
4. _____ styles are located in a separate CSS file and then linked to the HTML document.
5. HTML has _____ and CSS has _____.
6. "Color" is a [property / value]. (circle one)
7. "red" is a [property / value]. (circle one)
8. To change the color of your font, use the _____ property.
9. To change the background color , use the _____ property.
10. To specify more than one font, you can use the _____ property.
11. To make text bold, use the _____ property.
12. To make text italicized, use the _____ property.
13. To underline text, use the _____ property.
14. To change the case of your text, use the _____property.
15. A margin is the space _____ of the element. (This is the space between elements.)
16. Padding is the space _____ the element. (If a border is applied, the padding is the space between the element and the border.)